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ABSTRACT

In order to increase the efficiency and quality of performance assessment, the Leon County (Florida) Schools implemented a program in which teachers used the Apple Newton personal digital assistant and newly developed "Learner Profile" software program during 1994-95, in order to take observational and performance-based assessments in the classroom. The hand-held Newton and the software were disseminated to more than 800 teachers and training was provided. The first year formative evaluation focused on distribution/configuration, set-up, training, early use, teachers' feelings about the program, and schools' future plans for using Newtons and Learner Profile. Evaluation results indicated that first year implementation required much training and technical support as well as much teacher practice time. Only one-third of participating schools reported that 10% or more of their teachers engaged in regular use of the Newtons. Although overall first-year use was small, a significant number of pioneer schools and teachers who used the Newtons may serve to enhance future use. Lessons learned included the knowledge that: (1) training should be supplemented by much individual practice time; (2) a systematic support system should be established in the school; and (3) the program should begin with a small, solid base on which to build. An appendix contains the school distribution list. (Author/SLD)

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ED 402 317

NEWTON AND LEARNER PROFILE ISSUES: A FIRST-YEAR FORMATIVE EVALUATION OF A DISTRICT-WIDE EXPERIMENT

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Abstract

In order to increase efficiency and quality of performance assessment, the Leon County Schools implemented a Newton and *Learner Profile* program during 1994-95. The first year formative evaluation of the program focused on distribution/configuration, set-up, training, early use, teachers' feelings about the program, and schools' future plans for using Newtons and Learner Profile. Evaluation results indicated that first year implementation required much training and technical support as well as much teacher practice time. Although overall first-year utility was small, a significant number of pioneer schools and teachers were produced which may enhance future progress. Lessons learned included: (1) training should be supplemented by much individual practice time, (2) the should have a systematic support system within the school, (3) start the program with a small, solid base and build.

NEWTON AND LEARNER PROFILE ISSUES: A FIRST YEAR FORMATIVE EVALUATION OF A DISTRICT-WIDE EXPERIMENT

The Leon County Schools acquired 1,100 Newtons and supporting Learner Profile software during the spring and summer of 1994 for the purpose of providing teachers and administrators with a hand-held input device which would streamline personal management and performance assessments mandated by the provisions of Florida Blueprint 2000. The primary goal of this effort was to increase the efficiency and quality of student assessments performed, recorded, and reported by teachers. (Teachers and administrators would record observed performances using the hand-held Newton then use the *Learner Profile* software to upload the data to computers where they could be printed for distribution to consumers.) Some training and electronic support were to be provided by the appropriate district units.

Because of the paucity of existing data regarding implementation of the Newton and *Learner Profile* on such a large scale, the district instructional support staff considered evaluation to be a critical component of the program. The support staff requested that an evaluation plan be formulated and implemented by the district program evaluation section. The first year formative evaluation (1994-95) focused on distribution/configuration, training, early applications, problems, and benefits of the program. The purpose of this paper is to provide potential district users and supporting professionals with first-year evaluation results as well an overview of the program and perspectives of the program managers. Consequently, the evaluators and program managers have collaborated in preparing this paper. It is hoped that the audience will benefit from these recorded experiences as they respond to Blueprint 2000 and similar educational milieu.

This document is organized according to the sections listed below. In the first section, the program management has offered a brief description as well as insights about the development and conduct of the program. This section is followed by the evaluators' guiding assumptions, a description of the evaluation activities, selected results, and questions/factors regarding program continuance. The paper is concluded by management's perspectives regarding lessons learned and its recommendations.

Content

Program Management's Overview of the Newton/*Learner Profile* Program
Evaluation Method
Selected Formative Results
Perspectives of the Program Management: Lessons Learned and Recommendations
Appendix A: Newton Distribution 12/12/94

Program Management's Overview of the Newton/Learner Profile Program

Background and Distribution

During the 1993-94 school year, several Leon County teachers participated with Wings/Sunburst in a nation-wide pilot of a new software called *Learner Profile*. The software was designed to help teachers take observational and performance based assessments in the classroom. For most of that year, a bar code scanner was used as the tool for collecting the data, however, by the spring of 1994, the Apple Newton personal digital assistant became a second tool which could be used. Using the Newton proved to be faster, and it offered additional features including a calendar, name file, and notepad. The Leon County School District entered into a joint contract with both Apple™ and Wings/Sunburst which provided a district-wide site license for the software based on the number of Newtons purchased. The information was disseminated to the schools with the offer to purchase as many Newtons as they would need for carrying out the district's Application Based Assessment (ABA) initiative. In all, over 1,100 Newtons were ordered.

The Newtons were distributed during July and August of 1994 to district and school administrators who received three hours of training on the use of Newtons. When teachers returned for the 1994-95 school year, school-based training was carried out at every site.

Set-up of Software and Hardware

After training on the use of the Newton was completed, the next step was to begin training people in the schools to use the *Learner Profile* software. Because of the immediate need to train over 800 teachers, each school was asked to designate a *Learner Profile* contact. The contact group members were trained for a day and a half to be able to go back to their schools and help load the software and serve as "in-house" troubleshooters. The Newton users in each school then received three hours of training on the use of *Learner Profile*. Setting up the teachers' accounts, which included importing student names as well as student objectives ("observables"), required about an hour for each computer. (During the fall of 1994, *Learner Profile* was not available on the Windows platform so several schools were unable to participate any further in the project. In fact, after being told to expect the Windows version by late November of 1994, the district did not receive the software and manuals until June of 1995.) Training and support for Windows-based schools is being implemented during the 1995-96 school year.

Training: *Learner Profile*

After at least one contact person in every school had been trained, "Trainer Teams"

began providing workshop for faculties at each school. The three-hour training was designed to teach each person how to import and set up Observable Sets and Student Groups and how to program Newtons. Teachers then practiced collecting "trial data" with Newtons and uploading them back into Macintosh computers. The training was concluded by having the teacher use the reporting feature in *Learner Profile* to generate a practice report.

During the training at individual schools, many factors played into having a teacher ready to leave, in three hours, knowing how to use both the Newton and the computer software. At some sites, a limited number of Macintoshes were available and teachers were used to working with Apple IIE's and GS's in their classrooms. This meant that on a number of occasions, trainers had to provide an on-the-spot Mac Basics class before continuing. Similarly, even though uploading data back to the Macintosh generally takes approximately two minutes, many teachers had to be trained in connecting serial cables and finding the modem port on the back of the computer. Altogether, these teachers went through much skills training in three hours.

Grade-level representatives from each school continued to meet approximately every six weeks with district administrators for the ABA Project. Several schools set up additional training sessions for their faculties, while others set up times for a trainer to meet teachers on-site during their planning times. Two district level persons continued to provide support for the use of *Learner Profile*, on an as-needed basis, throughout the remainder of the 1994-95 school year. One of the two was a teacher on special assignment whose job function was to provide support for classroom teachers in implementing the ABA Project. Her experiences with technology allowed her to provide specific support for using *Learner Profile*. The other person available (on a part-time basis) was the district's point person for Instructional Technology.

Evaluation Method

Evaluation Assumptions

The following seven key assumptions which guided the formative evaluation were composed by the evaluators and agreed to by the district personnel who were responsible for the Newton/*Learner Profile* program.

1. The N/LP program is connected to long-term instructional, assessment, technological, and personal management strategies of the district. Therefore, immediate evaluation activities should focus primarily on formative information to support such efforts.

2. N/LP was introduced to the district primarily to aid assessments of classroom performance. Therefore, immediate formative evaluation should be oriented toward helping schools and district staff improve distribution, training, utilization, and effectiveness of Newtons in aiding assessment processes.

3. Most of the work performed to date in performance assessment has been at the elementary level. Therefore, the district is most immediately interested in formative evaluation activities which focus on elementary education.

4. Newtons were purchased with the intent that they be used creatively by administrators and other staff as well as teachers for applications which are not especially presumed by the district. Therefore, while the primary focus of the formative evaluation should be on elementary teachers' applications of the Newton to performance assessment, the district is interested in discerning and evaluating creative uses and sharing the resulting information with the district at large.

5. Because of the potential for multiple uses, the recency of the technology, and the gap between user understanding of the technology and potential applications, the district chooses to not set precise timelines for overall implementation of the Newton program. It also follows that definitive plans for summative evaluation should not be developed at this time.

6. The district is interested in discerning and sharing information about the actual progress of the N/LP program as well as implementation barriers. Therefore, milepost evaluations should be implemented which focus on efforts, usage, processes, and barriers for progress.

7. The evaluation should be designed and conducted so that different perspectives among stakeholders are identified, addressed, and reported.

Formative Evaluation Strategies Through Fall, 1995

I. Formative Evaluation of Distribution/Configuration, Training and Training Needs, Initial Utilization, and Implementation Factors

Activity A: Newton purchase lists were obtained and analyzed by the Program Monitoring & Evaluation Staff in January, 1995. A brief report of the characteristics of the initial distribution/configuration of Newtons in the LC schools was prepared and forwarded to program managers. Distribution and configuration at sites were also investigated in Activity C below. {January, 1995}

Activity B: A focus group was conducted in February, 1995, to:

- Provide specific evaluation information about implementation of the Newton Program.
- Provide input for developing evaluation issues for Activities C-F.
- Review final operational evaluation questions.

Membership consisted of the existing district resource team, schools' representatives, and other pertinent Leon County Schools personnel. Particular attention was given to evaluating training, initial utilization, and implementation factors.

Activity C: In April, 1995, one survey form was administered to each Leon County school to determine:

- Site needs for training.
- Early applications.
- Frequency of use.
- Implementation factors.

Aggregated and individual site responses were documented and reported to the program managers as well as other interested parties for program improvement and planning support strategies for the 1995-96 school year.

Activity D: In April/May, 1995, case studies were conducted in two elementary schools, one middle school, and one special education school in order to probe specific issues and pursue unique applications discovered in Activities A, B, and C. Only schools which appeared to be most advanced were selected as cases for study. This was determined by responses to the survey administered in Activity C.

II. Goal Free Evaluation of Creative Applications

Activity E: The evaluation activity for this dimension of the evaluation was folded into activities in set I above.

III. Evaluation of the Evolution of the Program at a Defined Milepost

Activity F: It has been proposed that surveys be administered at all sites to randomly selected faculty and staff in the winter of 1995-96 to determine the progress of the program. Evaluation questions would focus on efforts and processes, use and utility, effects, and future plans for using the technology. It is not presently clear that this activity would yield cost-effective results.

Selected Formative Results

For the purposes of this paper, formative evaluation findings are summarized across schools and evaluation activities. (School-specific information is presented in a set of working papers available to program staff members for their use in assisting schools.) Bulletted results are grouped according to general questions that were formulated cooperatively with the Division of Instruction prior to the evaluation field activities. These questions appear in the following pages within the four categories listed below. The results section is concluded with a brief summary and questions for program continuation.

I. **Distribution/Configuration**
II. **Training**
III. **Utilization**
IV. **Schools'Evaluations and Plans for Future Use**

I. Distribution/Configuration of N/LP

A. Where are the 1,100 Newtons?

- All LCS schools acquired some Newtons during the first part of the 1994-95 school year (see Appendix A).
- A majority of the schools ordered Newtons in large enough quantity to sustain major, school efforts in personal management and assessment applications.
- According to Appendix A, 964 (88%) of the 1,100 Newtons purchased by the district were acquired by schools.
- Sixty-four percent of the 964 school-based Newtons were acquired by elementary schools as tools to primarily aid performance assessment.
- Seventy-six percent of the elementary schools acquired more than twenty.
- Only 33% of the middle, high, and Area III schools acquired twenty or more. However, their 347 Newtons still represent a substantial set for experimentation and applications.
- No school reported having removed Newtons from its site.

B. How are the Newtons configured at the schools?

- Overall, it appeared that schools which ordered significant numbers of Newtons gave most of them to their teachers.
- Most of the administrative staffs had their own Newtons—fifty-nine percent of the schools assigned at least one to administrators, but only three schools assigned any Newtons to other staff members.
- Twelve of the nineteen responding elementary schools reported that twenty or more teachers had their own personal Newtons.
- Six of the fourteen middle, high, and Area III schools had at least ten teachers

who had their own personal Newtons.

- Schools with few (ten or less) Newtons, tended to have clustered them according to teacher teams, departments, or grade levels.

C. *Are more Newtons needed?*

- The 29 responding schools indicated that a total of 82 teachers who do not have a Newton want one.
- Several schools reported that little or no use is planned for their Newtons.
- Instructional Services might consider using the information in the working papers to facilitate swaps among schools.

D. *What were the roles of teachers in deciding to acquire Newtons?*

- Teachers played at least a partial role in the decision to buy the Newtons in most of the cases where schools purchased twenty or more.
- Principals tended to be listed as the primary decision-makers where few were bought.

II. Training

E. *Overall, do schools desire more training?*

- Although much training had already occurred, schools indicated that much more training was desired.
- Only five schools responded that no more training would be required. (They did not see a large future for the program at their schools.)

F. *What is the desire of DOS schools for training?*

- DOS schools tended to indicate that they were anticipating the arrival of DOS LP software and expected to become trained in its use.
- It would appear to be natural for Instructional Services to target DOS schools for early 1995-96 training—especially DOS elementary schools which acquired many Newtons and desire training for assessment applications (see questions 8-13 in the Working Papers for school-specific information).

G. *How many teachers have been trained in personal management, and is there a desire for more?*

- The total number of teachers reported as trained in personal management was estimated to be near 579 at responding schools while 281 were reported as desiring more. Eighty-one percent of the responding schools indicated that at least nine teachers had been trained in PM—most elementary schools had sixteen or more trained.
- Elementary schools indicated the most desire for future PM training (55% of the elementary schools indicated ten or more teachers needed more training). Only two "other" school needed more PM training for ten or more teachers.

H. *How many teachers have been trained in observing students and loading N/LP informations, and how many more need more training?*

- Schools reported 300+ teachers had been trained while 400+ needed additional training. (It is understood that these numbers were affected by the unavailabililty of DOS software.)
- Although desire for training was highest among elementary schools, almost all of the middle schools also desired this type of training for generally, lesser numbers of teachers—of the high schools, only one desired this training for a significant number of teachers (information included in staff working papers).

I. *What are the schools' evaluations of the training?*

- Most schools were at least somewhat satisfied with the professional improvement which resulted.
- Responses to training effectiveness questions varied considerably. (For more specific information, the reader is referred to the transcribed responses of specific schools to survey question numbers eight through thirteen in the Working Papers.)
- Supplemental practice time and the timeliness of training (given the schedule of hardware/software arrivals) were the greatest concerns of schools.
- For the majority of schools, length of the sessions, class size, and teachers' access to Newtons/computers did not appear to be issues although they were significant for a few schools (see Working Papers). Only 17% of the schools indicated that their teachers had shared Newtons during training.
- In regard to the three types of training provided, block-plus-practice was reported as having been used much less than both the three-hour block and split-block. However, block-plus-practice was universally considered the most desirable. (Some comments by specific schools in the Working Papers about supplemental practice times are significant.)
- Slightly more than half of the responding schools felt that a majority of their teachers who were trained had enough prerequisite technical knowledge to take advantage of the training.

III. Utilization

For the purposes of this document, it is worthwhile to consider three categories of use; personal management, assessment of students, and other. Also, please note that the evaluator was aware that:

(1) DOS schools had not received their software when the survey was administered.

(2) Great variance existed among schools regarding the number of Newtons available for teachers' use (especially between elementary and other schools).

(3) Great variance existed between elementary schools and other schools in targeted uses—ABA targets existed for elementary schools.

Combining information regarding teachers' use of N/LP for assessing students was problematic because:

(1) Few schools other than elementary schools had predefined targets for student assessment.

(2) Teachers' commitment to assessment and specific assessment practices were unknown.

(3) The availability of Newtons, other hardware, and software varied considerably among elementary schools.

J. Overall, what is the current level of use for personal management?

- As was expected, much more use was reported for personal management than for the other two categories.
- The schools' responses regarding the percentage of teachers attempting to use Newtons for personal management are presented below.

Schools' Reports of Personal Management Use

00%	said	80% to 100%	of their teachers.
16%	said	40% to 79%	of their teachers.
47%	said	01% to 39%	of their teachers.
31%	said	00%	of their teachers.
06%			did not respond.

**Approximately 60% indicated that a sizeable number of their teachers were at least trying to use their Newtons for personal management—approximately 1/3 indicated their teachers were not.*

- The quality and worth of the efforts were not evaluated.

K. Overall, what is the current level of use for assessing students?

- The data below regard elementary schools' self-report of the number of their teachers who have been experimenting with Newtons in assessing their students.

Use of Newtons in Student Assessment

6 schools said	8 or more	of their teachers.
7 schools said	2 to 5	of their teachers.
5 schools said	0	of their teachers.

- Responses to survey question 15 transcribed in the staff working papers contain important comments by elementary schools about their efforts regarding Newtons and student assessment.

L. What are some other uses which schools are making of N/LP?

- Interviews with case study schools, focus group interactions, survey responses, and other informative interactions provided the following list of "other" uses of Newtons in Leon County Schools.

(1) Maintaining records in the media center of books read

(2) School equipment lists recorded by clerks
(3) Recording teachers' inservice training hours
(4) Scheduling ESE conferences
(5) Maintaining ESE student records
(6) Writing letters at home, then downloading at school
(7) Recording personnel evaluation information
(8) Playing software games which accustom teachers to Newtons

- Some of the entries in the list above can be matched to schools by reviewing responses to survey question 16 in the staff working papers.

IV. Schools' Evaluations and Plans for Future Use

M. What are the schools' overall judgements about the N/LP program?

- It was the opinion of the evaluator that when the survey and case studies were accomplished, schools, overall, considered the N/LP program to be experimental.
- Respondents rated their faculty's overall feelings about N/LP on a five-point scale in survey question 17. The resulting data are listed below.

00	Very Positive
06	Somewhat Positve
08	Neutral
16	Somewhat Negative
00	Very Negative
01	Don't Know
01	Blank

**The average response was between somewhat negative and neutral.*

***The respondents' methods of obtaining the "overall feeling" of the faculty ranged from disciplined investigation to holistic assessment.*

- The most popular set of elementary school comments were epitomized by "A good idea, exciting, and teachers are willing to learn, but there is some frustration because of equipment delays/mechanical problems (prickly characteristics). We intend to continue the program."
- Realized benefits listed by schools included:
  (1) Pioneering and technological insights of the faculty.
  (2) Improved and streamlined assessment.
  (3) Teachers' involvement in the decisions about the project, and their continued commitment to it.
- Identified barriers included:
  (1) Battery lives & other computer/Newton problematic characteristics.
  (2) Paucity of time for practice and implementation.
  (3) No compelling need exists for N/LP—LP output differs from required

ABA reporting (elementary).

- Readers are referred to responses to questions 15 through 18 in the staff working papers for comments of specific schools.

N. What are elementary schools' future plans for N/LP?

- Elementary schools' plans for using N/LP for performance assessment varied significantly. Four schools indicated they definitely intended to integrate N/LP with ABA, and four schools had no plans for using N/L.
- Most of the "middle majority" wished to continue the program (considering the large number of requests for training) but recognized that the overall feeling of their faculty was not positive. Most of these, if not all, had yet to successfully integrate N/LP with alternative assessment. In the opinion of the evaluator, the middle majority probably had come to view the program as experimental by the time of the survey.

Summary of Results

- Utilization: At the time of the survey, use of the N/LP was experimental in almost all of the schools, and the percentage of teachers who had incorporated Newtons into their daily practices was reported to be low, overall.
  One-third of the schools had ten percent or more of their faculty engaged in regular use of the Newton. Two schools reported having a majority of their faculty engaged in regular use. Ten percent to 20% of the teachers of the responding schools were regularly using the Newton for personal management activities (there was considerable variance between schools). For the nineteen elementary schools which responded, the median number of teachers who were attempting to use their Newtons for student assessment was two, and the range was 0 to 32.

- Training: Although considerable training has been accomplished, much more was requested by schools in the survey. A majority of the requests were at the elementary and middle school level and concerned Learner Profile training—observing students and loading information. DOS software having only recently arrived, DOS LP training would seem to require a high priority.

- Faculty Attitudes: The overall feelings of faculties ranged from somewhat positive to somewhat negative about the program—fifty-three percent of the responding schools reported somewhat negative feelings, and 27% reporting overall neutrality.

Questions Regarding Program Continuance

1. Is there a need for further evaluation activities during 1995-96?

   It has been proposed that an in-depth, N/LP status report be prepared following an anonymous N/LP survey of teachers during the 1995-96 school year. This larger report would contain all available information regarding the N/LP efforts in the Leon County Schools including information in this report.

2. How much support should Instructional Services give this program during 1995-96?

   Factors for Maximizing District Support

   a. Software has arrived for supporting DOS schools.

   b. There have been substantial requests for continued training in personal management, assessment, and loading.

   c. A majority of the schools indicated in the survey that they have future plans for the program.

   d. Although the proportion of teachers using Newtons regularly is small, it represents a significant number of pioneers who might help support the program in the future.

   e. A few schools have indicated that they are building towards a large proportion of their faculty using the Newton in 1995-96.

   f. Many resources at both the district and school levels have already been invested, including:

   - Hardware and software *(1,100 Newtons and supporting LP units).*
   - Training *(more than 500 teachers trained in multiple 2-3 hour sessions).*
   - Teachers' practice and implementation time *(much).*

   g. Much specific information is now available to target problems and opportunities at the school level, including schools' plans and desires for continued use and involvement.

   Factors for Minimizing District Support

   h. The early, immediate utility returns for the overall program investments have been low, and there is no guarantee that the immediate returns will improve during 1995-96 *(a median of two elementary teachers per school attempted to use their Newtons for assessment and approximately 15% percent of responding schools' teachers used the Newton for personal management).*

   i. Overall, faculty attitudes were reported to be more neutral and negative than positive about the program.

   j. There is no evidence that commitment to daily applications beyond experimentation is substantial and widespread among teachers and administrators.

   k. The N/LP use for actual improvement in alternative assessment activities appears to have occurred in only isolated instances. It has not been established that overall, significantly better student assessment will immediately follow from further commitment of resources.

Perspectives of the Program Management: Lessons Learned and Recommendations

- **Time for teacher planning and practice in the use of a new technology needs to be factored into a training plan.** With 30 schools to train, the district training team spent considerable time setting up for a training, which typically took a three hour commitment prior to the three hour training. Usually, teachers were either given a three hour release time from their classroom to be trained, or had to go through the training after school. An unwritten expectation was that somehow, teachers would make or find the time to practice using their new skills so that they were comfortable in using both the Newton and the software on their own. Only a limited number of schools provided their teachers with the time to practice, during the school day, with a trainer available to answer questions.
- **On-going support is critical.** At the end of the three hour training session, a task should have been assigned each participant with a follow-up meeting to occur within the next two weeks. For example, teachers might have been told to collect data on their students and that a trainer would be back on Day X to help in the next step of uploading the data successfully to the computer. Still another assignment might have been to print out reports for five students on one set of the observables which were used during observations.
- **Find out the name of a contact person at the company whose hardware and software you will be using.** Not only did we get to know tech support people at both Wings and Apple, but on more than one occasion, we provided insights into their products which they, themselves were not aware of. For example, because of the storage requirements that we knew the Learner Profile software would require, each Newton came with a 2mg storage card. We discovered that these PCM-CIA cards created a real drain on the alkaline batteries which came with the Newton. AC adapters also were provided, but if the PCM-CIA card was left in the Newton overnight, without it being plugged in, then users were frequently finding their batteries drained within about a week. Teachers let us know quickly that there was a problem!
- **Start with a small, solid base and build from there.** Because we had so many teachers to train, we imposed upon ourselves a schedule which only allowed time for training larger groups and denied everyone the follow-ups needed. For technology training, I would recommend setting a limit of about 15 participants. At the time that the original training date is set, I would also recommend setting two follow-up dates.
- **Be aware of the effect that mandating any initiative will have on some participants.** Our district is committed to having teachers keep portfolios and take performance based assessment. Some of our teachers objected to the extra time needed to learn new assessment strategies, and were equally unhappy about the necessary training for the technology project, even though it was introduced to streamline the data collection and management.
- **Our school which experienced the greatest success with this initiative did so through site-based management.** Each school had the choice as to whether or not to participate in the project and how many Newtons they wished to order. After trainers at the district level distributed the Newtons and provided training in the use of Learner Profile, it then was up to each site to decide how to support its use. The schools that managed the project from a site-based perspective did so with follow-up activities and administrators who modeled the use of the Newtons.
- **Expect change to be a slow process.** Research from Apple's *Classroom of Tomorrow* has shown that from the time a new technology is first introduced, until it is

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adopted into general use takes about three years. We in Leon County need to look upon the results we have so far as being part of a formative report and realize that there is still much to be learned about the process of reforming instructional strategies. We also need to use the "data" we have collected so far and use that in our own cycle of Planning, Teaching and Assessing.

APPENDIX A
NEWTON DISTRIBUTION 12/12/94

Elementary

Apalachee		26
Astoria Park		06
Bond		24
Brevard		50
Buck Lake		33
Chaires		08
DeSoto Trail		40
Gilchrist		52
Hartsfield		22
Killearn Lakes		32
Moore		44
Oak Ridge		32
Pineview		07
Riley		06
Ruediger		42
Sabal Palm		30
Sealey		21
Springwood		21
Sullivan		60
Wesson		16
Woodville		45
	Total	617

No. of Newtons	No. of Schools	
00-09	4	
10-19	1	
20-29	5	76%
30-39	4	
40-49	4	
50-60	3	

Mean 29.4 Median 30 1 Newton per 24 students

Middle

Belle Vue		12
Cobb		10
Deerlake		20
Fairview		60
Ft. Braden		07
Griffin		45
Nims		06
Raa		14
	Total	174

No. of Newtons	No. of Schools
00-09	2
10-19	3
20-29	1
30-39	0
40-49	1
50-60	1

Mean 21.7 Median 13 1 Newton per 40 students

High

Godby		04
Leon		10
Lincoln		20
Rickards		50
	Total	84

1 Newton per 84 students

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Area III Schools					
SAIL	18				
TAP	08		No. of Newtons		No. of Schools
Little Chaires	?		?		1
Second Chance	02		00-09		5
Lively	00		10-19		1
PACE	01		20-29		1
Everhart	40		30-39		0
Arc	00		40-49		1
Adult Ed.	20				
Total	89	Mean 11.1		Median 05	1 Newton per 29 students for acquiring schools

District Offices			
Area I	02		
Area II	01		
Area III		01	
Assessment	08	☼	
Business Services	01		
DMC	10	☼	
ESE/District	35	☼	
Evaluation	04		
Facilities	04		
Finance	05		
FDLRS	20	☼	
Guidance	02		
Human Services	01		☼ 69%
Information Services	02		
Instructional Serv.	21	☼	
Personnel	?		
Planning	02		
Purchasing	02		
Reserves	03		
School Board	05		
Superintendent	05		
TEC/Staff Dev.	02		
Total	136		

Grand Total	1,100		
		Elementary	617 / 964 = 64%
		Middle	174 / 964 = 18%
		High	084 / 964 = 09%
		Area III Schools	089 / 964 = 09%
		Schools' Total	964

Summary Notes

a. Eighty-eight percent of the Newtons were acquired directly for school sites.
b. Elementary schools acquired nearly two-thirds of the school site-based Newtons (1 for every 24 elementary students) with 76% of the elementary schools acquiring at least 20 Newtons.
c. Middle schools and high schools acquired far less (one for every 40 middle school students and one for every 84 high school students) with three schools accounting for 60% of their Newtons.
d. All but three Area III schools acquired Newtons. Those which acquired Newtons got almost as many proportionally as elementary (1 for every 29).
e. Newtons per student ratios are decreased by one (prox) if ESE's Newtons are used as directly for instruction.